

a life of debauch. There are many inverters who have kept themselves under control and lived respected in their communities. This is particularly true with women. The worst thing about these unfortunates is that when they begin to indulge their desires to any degree they are apt to be dragged down to the level of their companions.

The antisocials I am leaving out of account, as they cease to be household problems pretty early and find their way into the courts and thence to prison. They are like the cold autists above mentioned, and the irascibles, who in their rages commit deeds of such violence that they are immediately brought under control of the police.

It is particularly for the lying and swindling group that I wish to urge a stern discipline from very early years. For them the present-day tendency to let them express themselves without let or hindrance is to put a premium on their giving free rein to their selfishness and conceit. This means, of course, a complete change in the present-day system of dealing with the young. As the present method of letting them do as they please is a reaction from the stern and sometimes brutal treatment of a hundred years ago, so must there be a gradual stiffening of discipline, with an intelligence greater than shown in the past. This will come about, not only because it will be seen as the wise thing to do, but because the situation will eventually get so bad that self-preservation of society will dictate the method.

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DISCUSSION

ROSS MOORE, M.D. (1930 Wilshire Boulevard, Los Angeles).—In approaching the problem of the psychopath in the home, I find myself constantly trying to evaluate him on the basis of his relative adequacy or inadequacy to life.

There are some psychopaths who can be helped to lift themselves out of the problem class. In other words, there are persons who are perfectly able to live on the psychic level of their present surroundings, provided they become relieved of certain removable handicaps.

The program of treatment for such psychopaths is clear and not complicated. It usually requires neither long and repeated psychoanalytic seances nor sanitarium regimen. Just a common-sense inquiry into discoverable causes and a rigorous elimination of the same.

The other group of psychopaths includes those pathetic personalities who are essentially or biologically inadequate for life in the sphere or on the psychic level wherein their lots are cast. They are the unfortunate ones. For neither they themselves nor their relatives are willing to admit their permanent handicaps. Thus their successful treatment has far higher hurdles to jump. Both themselves and their friends have to be forced to accept, as bitter fact, a situation they have trained themselves to strenuously deny. Frequently this acceptance cannot be forced. Thus, the poor patient shuttlecocks about among doctors and sanitariums, grasping ever vainly at a will-o'-the-wisp promise of health.

Nevertheless, such persons can, in a good proportion of cases, be helped if effort be persisted in long enough. Such therapeutic success is the result of entire honesty of attitude on the part of the doctor, which ultimately reflects itself in an honest acceptance of himself by the patient. Success of this kind is well worth the effort.

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WALTER F. SCHALLER, M.D. (909 Hyde Street, San Francisco).—The psychopathic personality is most often an expression of a psychopathic constitutional state, by definition an inherent psychobiological defectiveness. These individuals from birth are poorly endowed to meet the

demands of ordinary life situations from the standpoint of social, moral, and emotional standards. To the layman these deviations represent but conduct disorders; to the psychiatrist they represent inborn defects, characterized by strong impulses, weak wills, superficial emotions, and irresponsibility. The true nature of the disorder, as Doctor Twitchell points out, is often overlooked in the home and the school, and not discovered until brought to light by a social behavior which calls the patients to the attention of the psychiatrist or, more frequently, of the law. These cases are often classified as constitutional inferiors. As a rule, they are not mentally deficient, and cannot be definitely classified among the psychoses. They are, therefore, on the borderline of the mentally capable and incapable. The severer cases are not benefited by any known therapeutic approach, as is possible, for example, in the psychoneurotic reaction types, from which they must be clearly distinguished.

In the milder types, I agree with Doctor Twitchell in the importance of early diagnosis and an attempt to strengthen the will and cultivate inhibition by deterrent methods. We are now living in an era aptly described by Aring and Bateman (*Journal of the American Medical Association*, October 2, 1937), as one characterized by a national neurosis. Unemployment and relief, the loosening of home and church ties, and the laxity of the law in minor offenses, to which may be added the popular educational idea of self-expression, cannot but further demoralize a psychopathic personality.

IONIZATION IN ALLERGIC RHINITIS*

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DISCUSSION by G. W. Walker, M.D., Fresno; Edward C. Donohoe, M.D., Glendale; Benton N. Colver, M.D., Glendale.

NASAL zinc ionization concerns itself with the introduction of zinc ions into the superficial layer of the nasal mucous membrane by means of the galvanic current.

INSTRUMENTS

The instruments used in ionization are (1) a generator for galvanic current, (2) conducting wires for positive and negative poles, (3) electrolytic solution or suspension in jelly, and (4) electrodes. The galvanic current is obtained either from (1) wet- or dry-cell batteries, or (2) motor generator from house current. When the free ends of the two poles or electrodes are connected, the current flows from the positive pole to the negative pole. When a solution of zinc sulphate is employed as the conductive media, zinc molecules are dissociated from the sulphate radical, the zinc ions going to the positive pole. Zinc sulphate in the strength of one-half to two per cent is used as the electrolytic solution. Warwick's¹ "Ionode" contains 85 per cent zinc, 10 per cent tin, and 5 per cent cadmium. His electrode contains these metals in the same proportion. Cottle² recommends 2 per cent zinc, with 5 per cent tragacanth suspended in jelly. Earlier in my experience I used only Warwick's solution and a fresh electrode in each side of the nose. Later, one-half per cent zinc sulphate solution was substituted and more recently Cottle's jelly.

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PREPARATION AND OPERATIVE TECHNIQUE

The presence of polyps and a deflected nasal septum interfere with the proper contact of the electrolytes with the nasal mucosa. Correction of such nasal pathology is made four to six weeks prior to ionization. When acute sinusitis coexists, ionization is deferred until the acute stage is over. In seasonal rhinitis, best results are obtained after the onset of hay fever. The adult receives the usual preoperative sedatives by mouth and hypodermic. Cocain and adrenalin are used for local anesthesia in the nose. Children require general anesthesia. Either one or both sides of the nose are treated at one sitting. Hurd³ and others flood the nasal chambers during the operation, while the head is kept in the dependent position. Warwick originally insisted on packing the nasal cavities with several strips of half-inch fiber cotton, well moistened with his trimetal solution, and then placed the electrode between them. The instillation of zinc jelly greatly reduces trauma. I prefer to have the patient lying down with the head resting on a pillow. The dispersive pole, with the well-saturated felt pad, is fastened to the upper arm or back of the neck. An insulated wire, which leads from the positive pole of the generator, is attached to the electrode in the nose. The current is then turned on gradually and the treatment continued until 100 to 150 milliamperes are given to each side (10 milliamperes for ten to fifteen minutes).

At the conclusion of the treatment the nasal mucosa presents a thin, grayish coagulum on the surface to which it is firmly attached. In three to five days this coagulum is cast off, and the mucous membrane appears smooth and salmon-colored.

HISTOLOGIC TISSUE STUDY

Histologic examination of the cast shows a vast number of leukocytes enmeshed in desquamated epithelium and fibrin. During the next three months there occurs an infiltration, chiefly of monocytes and lymphocytes, with a generalized increase in the density of the tunica propria. The mucous glands atrophy, goblet cells disappear, and eosinophiles persist. The picture is that of true fibrosis. The surface epithelium remains cuboidal for months. According to Smit,⁴ these cells eventually regenerate into ciliated columnar type when no chronic inflammatory process is present. A specimen removed from the middle turbinate of one of my patients two years after ionization revealed complete regeneration of the normal ciliated cells.

ANALYSIS OF ONE HUNDRED CASES

My experience in the treatment of allergic rhinitis by the use of ionization began in the fall of 1934. Sixty of the one hundred cases herein reported were treated during 1935, and forty during the first half of 1936. There were thirty-six cases of hay fever, seven of which were complicated with bronchial asthma. Among sixty-four cases of chronic vasomotor rhinitis, thirteen patients suffered from bronchial asthma. There were fifty-four males and forty-six females. Thirty-seven had nasal surgery done prior to being seen by me. Three were five years of age and one was sixty-five years

old, the majority being in the third and fourth decades. All came because of unsatisfactory results from previous treatments. Twelve patients were given a second treatment after the lapse of from four weeks to fourteen months. Three of these received no benefit from either the first or second treatment. One gardener with hay fever took three treatments, but the results were far from satisfactory. One patient with vasomotor rhinitis, complicated by bronchial asthma, took three treatments at intervals of six months. His nasal condition improved, but he suffered recurrent attacks of bronchial asthma. Following each ionization, he was relieved of the asthma for a period of from four to six months. Ionization apparently produced no change in other cases which were complicated with bronchial asthma. Four patients complained of anosmia, three of whom regained their sense of smell in from four to twelve weeks following treatment. The fourth, a physician, still has impaired olfactory sensation five months after his second ionization.

Follow-up reports, after ten to thirty months, showed failure to give any relief in about 20 per cent of hay fever cases and 14 per cent of vasomotor rhinitis. One ionization controlled 50 to 60 per cent of hay fever, and 66 per cent of vasomotor rhinitis cases; but in the course of time it appeared that the shrinking effects produced on the nasal tissue gradually disappeared, and it returned to its previously waterlogged, boggy, inelastic condition; the nose being more or less wet.

To study the comparative efficiency of the various modalities now in vogue in the control of allergic rhinitis, a small number of patients were selected. The first group was treated by cauterization of both lower and middle turbinates with 50 per cent solution of trichloroacetic acid. The entire nasal mucosa of the patients in the second group was coated with pure phenol. In the third group the nasal mucosa was painted with 50 per cent solution of silver nitrate, and the fourth group had the turbinates and nasal septum injected with 50 per cent alcohol. No other treatment was given to these groups. They have been under observation from twelve to twenty-four months. Time does not permit a detailed report on each series, but none of the above methods has given as lasting palliation as has ionization.

INDICATIONS AND LIMITATIONS

It should be remembered that ionization does not alter the allergic state of the individual. The Alexanders⁵ have shown that when active reagents are present in the blood of hay fever patients, ionization yields no relief. This is to be expected. Another drawback is the possibility of permanent injury to the nasal mucosa, but Alden⁶ thinks that the relief obtained more than compensates for the tissue damage. Dean⁷ states that ionization is helpful in patients with a maximum of chronic vasomotor rhinitis and a minimum of allergy. He is of the opinion that it is not necessary for the control of hay fever. This is probably true in St. Louis, where a large number of hay fever patients suffer from ragweed pollen during six to eight weeks in

the autumn. In the semitropical State of California, pollinization occurs nearly throughout the entire year. Multiple sensitivity is the rule rather than the exception. The majority of seasonal cases sooner or later become perennial. Thus, the problem presents decidedly different and difficult aspects.

In the light of present knowledge the sane and sensible approach to the management of all cases of allergic rhinitis is first to break the contact with the active allergen and next to desensitize. In actual practice, however, this may be impossible. It is necessary, therefore, that an appropriate non-specific treatment be tried. Dietetic errors must be corrected, endocrine imbalance regulated, and every focus of infection eradicated. In addition, the nasal chambers must be kept as near the normal state as possible. Some time in the course of their ailment nearly all allergic rhinitis patients seek the services of one or more rhinologists. The allergist, endocrinologist, internist, roentgenologist, dietitian, and others, may be called in as consultants whenever their services are deemed necessary in the best interest of the patient, but the rhinologist must carry the full responsibility for the adequate management of these cases. One who depends on only a single modality for the relief of all the symptoms present in such a complex disorder as allergic rhinitis, is almost certain to be disappointed. Ionization is no exception to this rule. It is no more than a therapeutic adjunct.

SUMMARY

It may be stated, in summarizing, that the result of ionization for hay fever patients over a period of from ten to thirty months was good in from 50 to 60 per cent of patients, failed in 20 per cent, and over the same period a single ionization controlled 66 per cent of chronic vasomotor rhinitis patients, moderately helpful in 20 per cent, and failed in 14 per cent when no other treatment was given.

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DISCUSSION

G. W. WALKER, M. D. (533 T. W. Patterson Building, Fresno).—This subject has been well written and much discussed previously. Possibly there has been overenthusiasm in the work of some who presented the subject, but far greater errors have been made, in my opinion, in the criticisms expressed by opponents who have condemned the whole procedure—I think without sufficiently careful in-

vestigation—but I think others speak more from prejudice or from seeing nasal ionization poorly done.

Doctor Hara has ably presented the case of intranasal ionization for hay fever—I do not say case for ionization—but he has presented it just as the facts warrant, giving both sides—and there are two sides.

I think there is a tendency by some to accept a new method with undue enthusiasm, and that others are unduly critical, each without sufficient knowledge of the new method in question. Probably all of those who are too easily won as friends will too easily drop the method as useless when they encounter some difficult situations. If there were not an enormous number of sufferers who, like Doctor Hara's patients, had been treated with very little benefit by other methods, and had suffered so badly—as they do suffer here in the West by unrelieved hay fever—there might be little or no place for ionization. They suffer too much in the six hours following ionization to lightly consider it as a remedy; but the pain can be pretty well taken care of by sedatives. Their nasal breathing being completely shut off for the next four days is objectionable. Their slightly crusty nose for two weeks is another objection. Cases need to be very carefully selected. If I had only a little trouble from hay fever, I would not have ionization; but if I suffered as many of these patients do, I certainly would have it done. Those who object that the nose is permanently damaged from ionization are, I think, mistaken. I have watched these noses for about four years with as much follow-up as I think one can hope to do. I am intensely interested in the follow-up. So far as I can see about the macroscopic appearance of the nasal mucosa after two or three months following ionization, there is no appearance of any destructive result.

One candid and able critic has expressed fear that atrophic rhinitis might result from intranasal ionization. That would be a serious result, so I have very carefully examined about one hundred cases I have treated, dating back to three or four years ago, yet failed to find any evidence of any undue shrinking of tissue such as occurs in atrophic rhinitis.

I note that Doctor Hara has used one-half of one per cent zinc sulphate in some of his cases, and jelly more recently. I have always used the two per cent solution, with the exception of just a few cases where I tried jelly. It seemed to me that I did not get the jelly applied to all parts as I should, and I went back to the solution-saturated cotton.

I have not tried Doctor Hurd's method. It may be a good one. I have had some failures, but I have had such encouraging percentage of cases that did well that I still speak for intranasal ionization. I think there is ample place for its use. Some tell us that the same results can be expected from application of phenol, trichloroacetic acid, strong solution of silver nitrate and other topical application. I do not believe they can be compared in result with ionization. Some think it might succeed in vasomotor rhinitis, but not be helpful in proved allergic cases—that is, oculonasal pollenosis. I have gotten my best results in definite allergic rhinitis.

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EDWARD C. DONOHUE, M. D. (229 North Central Avenue, Glendale).—Beginning the use of ionization long after Doctor Hara's early investigation, it was our understanding that the zinc ions penetrated deeply into the tissues, bringing about a foreign body reaction with resultant fibrosis. Because of this, we have used quite weak current for shorter periods than usually employed, hoping to cause less interference with the vascular supply and minimize any consequent atrophy.

When anesthesia is employed we make use of pontocain, but in some cases no anesthesia is used. We shrink the tissues with ephedrin, and then endeavor to fill the nasal fossa with a zinc containing jelly. Only one fossa is ionized at any one time. The electrode is placed on the forearm.

Ionization is used by us only in elderly individuals with anosmia and considerable polypoid tissue in the nose. These people are usually given some relief, often for a short time only. The brief duration in some cases may be due to the moderate dosage which then often does not exceed fifteen milliamperes. Treatments are repeated as symptoms recur.

It has been a question with us as to whether the relief experienced would excuse the use of an agent which de-

stroys the glands and might permanently impair the function of the nasal mucosa. It is not unlikely that the relief our patients receive is due to the same factors which apparently bring about temporary relief following acute infections or after trauma to the nose.

We believe, with Doctor Hara, that ionization is merely a therapeutic adjunct and that its use should be very limited.

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BENTON N. COLVER, M. D. (1650 Melwood Drive, Glendale).—Doctor Hara has quite fairly stated the problem of handling cases which are clinically diagnosed as allergic rhinitis. Primarily, the patient must be taken into consideration as a whole, and have necessary consultation and care as may be indicated by his individual findings. Secondly, the ideal approach is to ascertain the allergens which are effective in his case. When this determination is made, steps should be taken to desensitize specifically. The impossibility of successfully carrying out this step in every case compels the rhinologist to seek some other form of help for a considerable number of his patients.

Finally, these cases, where failure to really solve the problem has resulted in continuance of the annoying symptoms, compel the rhinologist to resort to "symptomatic relief." Among the means employed is zinc ionization. This modality is admittedly a last resort after specific therapy has failed. So far as the patient is concerned, anything which will give him relief of his symptoms is acceptable. The use of the ionization does not preclude further study along the more desirable line of specific therapy.

Zinc ionization has been decried because of the suspension of certain normal functions of the nose. Experience and patience have revealed, however, that functional activity is not permanently lost. It might be compared to a massive dose of deep x-ray therapy which causes depilation and suspension of secretory function of glands in the neighborhood. Both of these effects are undesirable, but are not permanent, so that in due time hair growth is resumed and normal secretion begins. I believe that this is true of ionization in the nose so that any unpleasant symptoms can be tolerated in exchange for a relief from the annoyance of the allergic symptoms.

I feel that the careful selection of cases and accurate technique of ionization merits a continued "trial" and a careful tabulation of results in sizeable series of cases by a good number of dependable observers and clinicians.

INFECTIONS IN THE DANGER AREA OF THE LIPS, FACE AND NOSE*

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AND

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DISCUSSION by Harry Wiley, M.D., Huntington Park; Rea E. Ashley, M.D., San Francisco; Charles William Brown, M.D., San Diego.

IN this article we do not expect to go deeply into the question of pathology, for it is well covered in the literature by Fraser,¹ Koslin,² Ayers⁴ et al., Totten,³ and numerous other authors.

NATURE OF A FURUNCLE

Briefly, a furuncle is confined to the hair follicle and immediately near-by tissue. If not traumatized, it usually stays so confined. If traumatized, and possibly at times without it, it may extend to the adipose tissue and escape all confines near to the hair follicle, erode veins, only slightly deeper, and spread along horizontal connective tissue layers in all directions, little unhampered by any success-

ful attempt at protective walling off; and in places it may come to the surface along vertical structures, causing multiple openings, when the process is termed a carbuncle.

The skin in this region is thin, in intimate relation with underlying muscles, and the veins are valveless and communicate freely through the angular vein with the superior ophthalmic, and through the inferior ophthalmic and pterygoid plexus with the cavernous sinus. The process may erode veins, or thrombi may form, thus pouring the infection into the blood stream, and may extend to the meninges. The fact that the system has ordinarily no protective immunity against the *Staphylococcus aureus*, and little time to prepare it, admits of disastrous results with overwhelming rapidity.

At the last meeting of the Academy of Ophthalmology and Otolaryngology in New York, Batson had an exhibit which demonstrated the futility of trying to interfere with the condition by ligation of the communicating veins with the deeper ones, there being such an extensive and irregular anastomosis that, except with major surgery, inadvisable at the time, the process could not be cut off and thereby confined, even if one could know they were early enough.

Infections in this region occur much more frequently after puberty, as the hair follicles and sebaceous glands are much more developed after this period, though some have occurred at an earlier age. It seems to occur more frequently in the male than in the female, and on the lips and cheek.

THERAPY, AS REPORTED IN THE LITERATURE

Advice in the literature as to treatment runs all the way from strictly leaving the pus there, and using flaxseed poultices, through the use of vaccines, x-rays, heat, cautious incision, to the extreme radical of crucial incision, or radical exsection of the affected area.

Many suggest no surgery be done, and Dittrich⁵ says that surgically treated cases have produced about twice as great fatality as nonsurgical. Probably more grave cases have been operated than minor ones because of desperation, etc., and that might partly account for the greater mortality. But there are fatal cases reported when conservative nonsurgical treatment was used, though no trauma had been inflicted.

Surgeons usually advise where pus is found, evacuate it. One, condemning sole reliance on poultices, although he was considering abscess in another area, but would apply here, too, remarked that "the doctor might often have to depend on the abscess to rupture three days after death." The crucial incision of wide and deep extent produces a horrible cosmetic result. The incision that goes wider and deeper than it should invites disaster by completing the way for fatal extension. Where pus is found, evacuate it, but the incision should be confined to making simply an adequate opening to evacuate it, and only deep enough to do so. Such incisions are compatible with a perfect cosmetic end-result, with best safety and the shortest possible recovery period when combined with the proper application of pure phenol, melted crystals, and no

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